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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/251,297 | 02/17/1999 | J. FREDERICK LARRICK JR. | KMH-029COMBO | 3077 |

25582 7590 07/30/2003

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WASHINGTON, DC 20003

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| EXAMINER |
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FAN, CHIEH M

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| ART UNIT | PAPER NUMBER |
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2634

DATE MAILED: 07/30/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/251,297

Applicant(s)

LARRICK ET AL.

Examiner

Chieh M Fan

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 February 2003 and 16 May 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4 and 6-28 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1,4,6 and 10-13 is/are allowed.
- 6) ☒ Claim(s) 2,3,7-9 and 14-28 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities:

The applicants amended the application to include a claim of priority under 35 U.S.C. §120 as a continuation of co-pending applications 08/857,836 and 08/872,729 (see the amendment filed 6/3/02, PTO paper #4). However, it is noticed that the present application combines the teachings of the applications `836 and `729. Therefore, the present application can at most be a continuation-in-part of the applications `836 and `729.

Appropriate correction is required.

Claim Objections

2. Claims 14 is objected to because of the following informalities: the last word "signals" should be changed to --signal--. Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the

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art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claims 7-10 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

The applicants are requested to point out which portion of the specification has support on the claimed limitation in claim 7.

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 2, 3, and 14-28 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claims 2 and 14-20, claim 2 recites the limitation "a switched impulse generator includes one of an impulse-excited oscillator and a UWB impulse generator" in lines 3-4. In the situation that the switched impulse generator includes an impulse-excited oscillator, it is not clear how the subsequent limitation "a filter responsive to said impulse generator" would operate. Further, claim 2 recites the limitation "said waveform adapter" in line 7. There is insufficient antecedent basis for this limitation in the claim.

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Regarding claims 3 and 21-28, claim 3 recites the limitation "said waveform-adapted, ultra-wideband signal" in lines 8-9 and 10-11. There is insufficient antecedent basis for this limitation in the claim. Further, claim 23 recites the limitation "said waveform adapting" in lines 1-2. There is insufficient antecedent basis for this limitation in the claim. Claim 25 recites the limitation "the echo" in line 3. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

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8. Claims 2 and 3 are rejected under 35 U.S.C. 102(e) as being anticipated by McEwan (US Patent 5,521,600).

Regarding claim 2, McEwan teaches a communication system utilizing an ultra-wideband transmitter, said system comprising:

a switched impulse generator (16, 15, 12 in Fig. 1) including one of an impulse-excited oscillator and a UWB impulse generator to generate a low-level ultra-wideband signal;

a filter (17, 10 in Fig. 1) responsive to said impulse generator;

an antenna (11 in Fig. 1) responsive to said filter to radiate a representation of said ultra-wideband signal; and

a receiver (21, 22, 23, 24, 25, 26, 27, 33 in Fig. 1) for receiving said radiated ultra-wideband signal.

Regarding claim 3, McEwan teaches a method for detecting an object utilizing ultra-wideband transmitting techniques, said method comprising:

generating a switched impulse, low-level ultra-wideband signal (16, 15, 12 in Fig. 1);

filtering said switched impulse, low-level ultra-wideband signal (17, 10 in Fig. 1);

radiating (11 in Fig. 1) upon said object (20 in Fig. 1) a signal representing said filtered, ultra-wideband signal; and

receiving (21 in Fig. 1) an echo of said radiated, waveform adapted, ultra-wideband signal thereby to detect said object (33 in Fig. 1).

Claim Rejections - 35 USC § 103

9. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

10. Claims 14 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over McEwan (US Patent 5,521,600) in view of Ross et al. (US Patent 5,337,054) and Nicolson et al. (US Patent 3,983,422).

Regarding claim 14, as described above with respect to claims 2, McEwan teaches the claimed invention except a tunnel diode is used to detect the ultra-wideband signal. However, a tunnel diode threshold ultra-wideband receiver has been widely used in the art. An example may be seen in Ross et al. (see abstract). Further, Nicolson et al. (US Patent 3,983,422) teaches the use of a tunnel diode in a detector has the advantage of being a device which is commercially available with specified parameters (col. 1, lines 57-60). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate a tunnel diode into the receiver of McEwan for the advantage described above.

Regarding claim 21, as described above with respect to claims 3, McEwan teaches the claimed invention except a tunnel diode is used to detect the ultra-wideband signal. However, a tunnel diode threshold ultra-wideband receiver has been widely used in the art. An example may be seen in Ross et al. (see abstract). Further, Nicolson et al. (US Patent 3,983,422) teaches the use of a tunnel diode in a detector

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has the advantage of being a device which is commercially available with specified parameters (col. 1, lines 57-60). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate a tunnel diode into the receiver of McEwan for the advantage described above.

Response to Arguments

11. Applicant's arguments filed 2/3/03 have been fully considered but they are not persuasive.

The applicants argue that McEwan`600 does not teach a filter. The filter or filtering limitation is being understood to embrace devices and methods that limit, alter, or control the frequency or frequency range of the emitted UWB signal.

Examiner's response – McEwan clearly teaches that the burst is generated with a first low frequency f_L and a second high frequency f_H (see col. 5, lines 24-25). Therefore, elements 10 and 17 of McEwan clearly can be viewed as a filter to control the frequency of the UWB signal.

Allowable Subject Matter

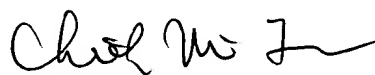
12. Claims 1, 4, 6 and 10-13 are allowed.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chieh M Fan whose telephone number is (703) 305-0198. The examiner can normally be reached on Monday-Friday 8:00AM-5:30PM, Alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Chin can be reached on (703) 305-4714. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9314 for regular communications and (703) 872-9314 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-4750.


Chieh M Fan
Examiner
Art Unit 2634

cmf
July 27, 2003



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Patent and Trademark Office
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Notice of Non-Compliant Amendment (37 CFR 1.121)

The amendment filed on 2.3.03 is considered non-compliant because it has not been submitted in the format required under 37 CFR 1.121, as amended on September 8, 2000 (see 65 Fed. Reg. 54603, Sept. 8, 2000 and 1238 O.G. 77, Sept. 19, 2000).

- ☒ The amendment does not include a clean version of the replacement paragraph/section. 37 CFR 1.121(b)(1)(ii)
- ☒ The amendment does not include a marked-up version of the replacement paragraph/section 37 CFR 1.121(b)(1)(iii)
- ☐ The amendment does not include a clean version of the amended claim(s). 37 CFR 1.121(c)(1)(i)
- ☐ The amendment does not include a marked-up version of the amended claim(s). 37 CFR 1.121(c)(1)(ii)

For your convenience, attached to this correspondence is a copy of an informational flyer (MPEP Bookmark Bulletin on "Simplified Amendment Practice").

Applicant is given a TIME PERIOD of ONE (1) MONTH or THIRTY (30) DAYS from the mailing date of this notice, whichever is longer, within which to submit an amendment in compliance with 37 CFR 1.121, effective March 1, 2001, in order to avoid abandonment. EXTENSIONS OF THIS TIME PERIOD MAY BE GRANTED UNDER 37 C.F.R. 1.136(a).

Lashawn M. B.
Legal Instruments Examiner